

REMARKS

This paper is being provided in response to the non-final Office Action mailed August 10, 2006, for the above-referenced application. In this response, Applicants have amended claim 38 and submit that the amendment is fully supported by the originally-filed specification.

Applicants have amended claim 38 to remove the term "adjustable." Accordingly, amended claim 38, and its dependent claims 39-40 and 44-46, correspond to the Species V identified by the Examiner in the Election of Species Requirement dated September 14, 2005, as "The Species illustrated in Fig. 8" and subsequently elected by Applicants.

Further, claims 1, 5-14 and 24-27 presently stand in "Withdrawn" status, but were amended in Applicants' previous Amendment and Response to also correspond to the elected Species V. Applicants regret any confusion introduced by Applicants' use of the term "rejoinder" in the previous response. Applicants are not requesting rejoinder as that term is defined in M.P.E.P. 821.04. Rather, Applicants respectfully submit that, in accordance with the previous amendments, claims 1, 5-14 and 24-27 currently correspond to elected Species V and thus should be examined.

The present Office Action dated August 10, 2006, did not include any additional rejections of the claims on the basis of prior art as compared with the prior Office Action. Accordingly, Applicants submit the following arguments for patentability over the cited prior art of the claims 38-40 and 44-45 that were specifically addressed in the prior Office Action as well

as for the other claims 1, 5-14, 24-27 and 46 that correspond to the elected species and are entitled to examination.

The rejection of claims 38-40 and 44-45 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,933,552 to Lee (hereinafter "Lee") is hereby traversed and reconsideration is respectfully requested.

Independent claim 38, as amended herein, recites a method of detecting electrons. An electron beam is generated. The electron beam is focused on an object. Electrons scattered on the object or emitted by the object are detected, wherein the selecting includes using a diaphragm, the diaphragm including at least one opposing field grid. Claims 39, 40 and 44-46 depend from independent claim 38.

The Lee reference discloses an inspection system utilizing retarding field back scattered electron collection. As shown in Fig. 2, Lee discloses an electron beam device including an electron beam column including grounded final stage lens assemblies 12, 14 and a sample 10 that is held at a high negative potential. A detector 16 is positioned around the electron beam column. Emitted electrons at the sample are accelerated toward the detector. Because the acceleration potential is relatively high, the low energy secondary electrons are strongly focused and are not detected by the detector, whereas the high energy backscattered electrons have a significantly larger transverse velocity component than the low energy secondary electrons and are thus collected by the detector. (See Fig. 2 and col. 4, line 61 – col. 5, line 5 of Lee.)

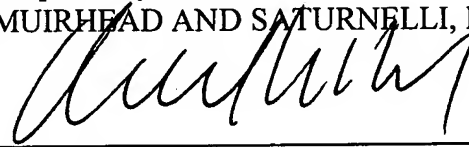
Applicants respectfully submit that Lee does not disclose selection of electrons according to electron energy using an opposing grid field so that electrons emitted by the object are not detected, as claimed by Applicants. Instead, Lee teaches the use of the acceleration potential. As noted above, because the acceleration potential is relatively high, the low energy secondary electrons are strongly focused and would not be detected. (See column 4, lines 65-67 of Lee). That is, as shown in Figure 2 of Lee, Lee's device detects high energy backscattered electrons that have a sufficiently large transverse velocity component as to be collected by a detector 16 positioned around the lens stages 12, 14, whereas low energy secondary electrons are focused back up into the lens stages 12, 14 and thus go undetected. (See Fig. 2 and col. 4, line 68 to col. 5, line 5 of Lee). Applicants submit that Lee's electron detection system does not teach or fairly suggest Applicant's presently claimed invention that includes the detection of electrons with selection of electrons based on electron energy using an opposing field grid. Accordingly, in view of the above, Applicants respectfully request that this rejection be reconsidered and withdrawn.

Further, as noted above, Applicant submits that claims 1, 5-14 and 24-27 correspond to the elected species and are entitled to examination. With respect to claim 1 (claims 5-14 and 24-27 depending therefrom), Applicants direct attention to the remarks made above concerning amended claim 38 in view of the Lee reference and respectfully submit that Lee does not teach or fairly suggest at least the features of an electron beam device having at least one opposing field grid allocated to at least one detector, wherein a voltage is applied to the opposing field grid such that the electrons emitted by the object are not detected by the at least one detector, as

claimed by Applicant in independent claim 1. Accordingly, Applicant submits that these claims are patentable over the cited prior art.

Based on the above, Applicants respectfully request that the Examiner reconsider and withdraw all outstanding rejections and objections. Favorable consideration and allowance are earnestly solicited. Should there be any questions after reviewing this paper, the Examiner is invited to contact the undersigned at 508-898-8603.

Respectfully submitted,
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